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Georgia State University Law Review

Summer, 2002

18 Ga. St. U.L. Rev. 1031

LENGTH: 17528 words

NOTE & COMMENT: REGULATING AGRICULTURAL POLLUTION IN GEORGIA: RECENT TRENDS AND THE DEBATE OVER INTEGRATOR LIABILITY

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LEXISNEXIS SUMMARY:
... Although the final DNR rule did not include the integrator liability provisions, the United States Environmental Protection Agency (EPA) has included similar provisions in their proposed federal rules governing AFOs, ensuring continued debate over this issue. ... The phosphorous content of this litter is equivalent to the amount of phosphorus generated in the sewage of forty million people; the litter also produces 30,000 tons (60,000,000 pounds) of nitrogen per year. ... The Guidance Manual also expressly addresses the issue of "integrator liability," stating "[c]orporate entities that exercise substantial operational control over a CAFO should be co-permitted along with the CAFO operator. ... With regard to the integrator liability section, the language is consistent with federal recommendations as laid out in the Draft Guidance and in the subsequently released proposed regulations; thus, contrary to the Farm Bureau's assertion, Kentucky is not pursuing a more stringent strategy than that of the federal government. ... The Attorney General's narrow interpretation of the word "operate" ignored the EPA's Guidance on integrator liability, which describes "substantial operational control" as the critical factor. ... The current EPA proposal clarifies that all entities exercising substantial operational control over a CAFO must obtain NPDES permits as facility operators and are therefore jointly responsible for excess manure disposal in order to remain in compliance with the permit's effluent limitations. ...

TEXT:
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Introduction

Thirty years ago, the Cuyahoga River in Cleveland, Ohio spontaneously ignited and burned because it had become so polluted by urban industrial waste. n1 The sight of such a large waterway in flames reflected the atrocious state of America's environment and was a catalyst for the passage of numerous environmental laws, most notably the Clean Water Act (CWA). n2

Under the CWA guidelines over the past three decades, the United States has made enormous progress in reducing

industrial pollution and cleaning up many waterways, making once unusable urban streams and rivers safe for swimming and fishing. n3 However, while Congress largely focused its attention on cleaning factories and municipal treatment plants, other economic sectors, such as agriculture, remained virtually unregulated and continued to pollute. n4 As a result, "40 percent of the Nation's waterways assessed by States still do not meet goals for fishing, swimming or both," thus offsetting the substantial progress that the nation has made. n5

One of the most serious agricultural offenders has been the animal feeding operation (AFO). n6 An AFO is a facility that grows, feeds, and [*1032] collects the wastes of a large number of animals in confined, enclosed buildings; this method is in stark contrast to the traditional farm, where relatively smaller numbers of animals graze for food and deposit their wastes outdoors over much larger acreage. n7

Recent events have highlighted the devastating impact that these operations can have. In 1995, a waste lagoon at a North Carolina hog farm ruptured and spilled twenty-five million gallons of raw hog sewage down the New River, killing thousands of fish along a seventeen-mile stretch. n8 In 1997, chicken waste from thousands of chicken farms in the Chesapeake Bay area caused an outbreak of pfiesteria, a toxic microorganism, which killed thousands of fish and sickened scores of people. n9 And in 1999, Hurricane Floyd's torrential rains flooded hog lagoons and killed millions of animals in North Carolina, temporarily converting the eastern part of the state into an enormous cesspool and floating animal graveyard. n10

These three events crystallized the AFO pollution problem, just as the Cuyahoga's burning riveted attention on urban factory pollution. Each catastrophic event illuminated a steadily growing threat to America's human health and environmental quality. n11

Georgia has viewed these events with increasing alarm as the state struggles with its own farm pollution problem, stemming [*1033] predominantly from a largely unregulated poultry industry. n12 Given increasing concern over existing poultry operations, combined with a desire to avoid the type of hog farm pollution experienced by other states, Georgia's Department of Natural Resources (DNR) adopted new rules regulating both new and existing hog farms. n13

In response to the new rules, the Georgia General Assembly, at the request of the agricultural industry, passed legislation giving lawmakers the power to override the hog regulations and any future rules regulating other agricultural sectors that feature AFOs. n14 However, Georgia's Governor eventually vetoed the bill on constitutional grounds. n15

Most recently, a fierce battle raged over the Georgia DNR's proposed rules for chicken, cattle, and dairy farms. Much of the controversy revolved around a provision requiring corporate owners of the animals, known as "integrators" to share liability for pollution with the contract farmers who grow the animals. Integrators are those that own and control an integrated system of production from birth through slaughter and marketing. n16 Although the final DNR rule did not include the integrator liability provisions, the United States Environmental Protection Agency (EPA) has included similar provisions in their proposed federal rules governing AFOs, ensuring continued debate over this issue. n17

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Part I of this Note discusses agriculture's economic transformation from its emphasis on the small family farmer to the corporation, and the shift's impact on the increasing numbers of animals grown in ever smaller areas. Part II reviews the environmental repercussions of industrial AFOs, with emphasis on impacts in Georgia. Part III outlines the structural relationship between the farmer and the corporation that shields the corporation from environmental liability, thus creating the need for "integrator liability." Part IV examines existing and proposed federal and state regulation of

industrial AFOs, specifically focusing on Georgia's agricultural rules and the integrator liability debate. Part V addresses the political and legislative backlash to Georgia's regulations generally and to integrator liability specifically, and the potential conflict between Georgia and the federal government over AFO liability. Finally, the Note concludes that mandating joint liability for corporate owners and farmers will shift much of the burden of pollution prevention and clean up from the grower, who cannot afford it, to the corporation that can, which will in turn increase protection for Georgia's environment.

I. Agriculture's Transformation From Family to Corporate Farming

Historically, small family farms produced the vast majority of food in the United States. n18 However, over the last century, "the percentage of the population participating in farming has declined from twenty-five percent to two percent." n19 While the number of farms has dropped sharply, overall production has risen, leading to an [*1035] unsustainable increase in animal density on farms. n20 This change has been most profound in the pork industry. For example, since 1985, the number of hog farms has dropped seventy-six percent, from 600,000 to 157,000, n21 but "the number of hogs sold rose forty-eight percent" from 1987 to 1997. n22 "Nationwide . . . four companies control over half of all pork processing operations." n23

The poultry industry has experienced a similar trend. Between 1969 and 1992, the number of broiler chicken farms dropped thirty-five percent while the number of chickens produced tripled. n24 Five companies control more than half of the industry's profits. n25 Atlanta-based Gold Kist Inc., had assets of $ 1.05 billion and a net income of $ 103 million in 1998. n26 Cagle's Inc., another Atlanta-based corporation, had $ 139 million in assets in 1998. n27 "Industry profits have risen [nationwide] over 300 percent since 1987." n28 In 1998, the industry "had its highest returns since the 1970s: 14 cents per pound." n29

In stark contrast to this corporate success, the growers that raise the chickens for these corporations barely survive. n30 The average poultry grower takes out a mortgage and invests $ 500,000 to start a chicken [*1036] farm, but earns only $ 3000 to $ 6000 annually while paying off the mortgage. n31 Thus, the average poultry farmer lives well below the poverty line of $ 14,255 for a family of three. n32

A key factor in this farming evolution is America's insatiable appetite for pork and chicken as low-fat, low-cholesterol, low-cost alternatives to red meat. n33 For example, from 1965 to 1999, per capita chicken consumption more than doubled from thirty-three pounds to seventy-four pounds. n34 This increased demand has fueled competition and lowered prices, the combination of which has resulted in corporations taking over the lion's share of production. n35 To further meet this demand, corporations developed new technologies enabling them to grow huge numbers of animals in confined spaces, reducing production costs but increasing environmental costs in return. n36

II. Environmental Impacts of Industrial Farming

A. General Impacts

Agricultural practices consistently rank among the top sources of water and air pollution. n37 EPA studies indicate that farming is the leading pollution source in an estimated sixty percent of assessed rivers and streams and an estimated thirty percent in lakes. n38 Soil [*1037] erosion, as well as chemical runoff of fertilizer, pesticides, and herbicides from croplands account for much of this impact. n39 Animal feeding operations account for an estimated sixteen percent of the agricultural impact on these waterways. n40 Nationwide, approximately 450,000 operations confine or

concentrate animals. n41 Of these, about 6600 are large, industrial-sized operations with thousands of animals housed in buildings on relatively small plots of land. n42

B. Specific Impacts of Animal Feeding Operations

1. Animal Waste Pollution-Water

The most critical environmental problem associated with AFOs is the huge amount of waste they generate within a small area. n43 In 1997, livestock farms nationwide produced nearly 1.4 billion tons of manure-the equivalent of five tons of manure per person. n44 Rich in nutrients, this waste can be an important and- properly managed and applied-effective organic fertilizer for crops and a less costly alternative to buying chemical fertilizer. n45 However, the vast quantities of waste generated have seriously complicated its storage, treatment, and disposal, leading to serious pollution problems. n46

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Typically, liquid hog and chicken waste is stored and treated in open-air, earthen lagoons. n47 Often unlined and uncovered, these lagoons can leach waste out from the bottom during normal operations and during big rain events, may overflow over the top or collapse entirely, with devastating results. n48 For example, in 1996, "more than 40 animal waste spills killed 670,000 fish in Iowa, Minnesota and Missouri." n49

Dry chicken waste or "litter," a combination of manure, feathers, and feed that collects on the floors of chicken houses, can also cause pollution problems. n50 The litter is often stored in uncovered stacks next to chicken houses, leaving the waste susceptible to rain and wind dispersal into neighboring streams and lakes. n51

Even if waste has been properly stored, animal waste application can also cause significant pollution problems. n52 Commercial animal production often occurs in areas that are poorly suited to raising valuable crops due to unfavorable topography or soils. n53 Further, it is often too expensive for farmers to transport manure to more distant but more suitable fields. n54 Thus, farmers tend to over-apply their waste to surrounding fields; when saturated crops are unable to absorb any more, the excess manure runs off into adjacent surface waters. n55 Animal waste may then cause an array of environmental problems, including excess nutrient production, pfiesteria disease, and the spread of pathogens and nitrates.

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a. Excess Nutrients

Animal waste is a significant source of nitrogen and phosphorus found in ground and surface waters. n56 These nutrients cause the formation of algae, which, when it decomposes, depletes oxygen that fish and other aquatic species need to survive. n57 Excess nutrient loading is mainly caused by normal runoff from fields on which animal wastes have been applied as fertilizer, but it is also caused by serious events, such as waste lagoon spills or litter stack dispersal. n58

b. Pfiesteria

Animal waste runoff from chicken farms has recently caused pfiesteria outbreaks along the East coast, most notably

around the Chesapeake Bay area. n59 Pfiesteria is a toxic microorganism that not only causes fish to develop sores and lesions, but also threatens human health. n60 Persons exposed to pfiesteria report memory loss, rashes and respiratory problems. n61

c. Pathogens

Animal wastes also are sources of pathogens, such as bacteria and viruses that can be dangerous to human health. n62 Fecal coliform, cryptosporidium, and e. coli are just a few of the organisms, which, [*1040] via consumption of tainted water, can cause gastrointestinal illness, other infections, and, if left untreated, even death. n63

d. Nitrates

Nitrates, another animal waste byproduct, have contaminated groundwater aquifers in areas with large numbers of concentrated livestock. n64 Nitrates can cause methemoglobinemia in human infants, a potentially fatal condition also known as "blue baby syndrome," and are also linked to increased occurrences of miscarriages and certain types of cancer. n65 Nitrate contamination of groundwater is particularly serious because "half of all Americans and more than ninety-five percent of the rural population use groundwater for their drinking water." n66

2. Animal Waste Pollution-Air

Odor is another major AFO byproduct. n67 The breakdown of animal waste by certain microorganisms produces gases such as methane, carbon dioxide, hydrogen sulfide, and ammonia. n68 In Minnesota, large AFOs produce "hydrogen sulfide at levels vastly exceeding state air quality standards for other industries." n69 Methane gas is another pollutant of concern; "[t]he amount of methane emitted by manure management systems is projected to increase from about 10 percent of total U.S. emissions in 1990 to nearly 15 percent by the end of the century." n70

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3. Animal Mortality

The death of large numbers of animals in AFOs also poses environmental problems. n71 Disease and heat are the two major causes of mortality. n72 On average, poultry farmers lose 1000 chickens out of every 20,000 grown-a five percent mortality rate-resulting in nearly 285 million dead chickens annually nationwide. n73 Dead birds are normally buried in large pits, which, if improperly sited or maintained, can contaminate water supplies. n74 Alternative disposal methods, like composting or incineration, are cost prohibitive for many poultry growers. n75

Storm events may sometimes cause barns to collapse, leading to catastrophic mortality. n76 For example, the flooding caused by Hurricane Floyd left behind the corpses of an estimated 30,000 hogs and two-and-a-half million chickens and turkeys in one North Carolina river alone. n77

C. Impacts in Georgia

Agricultural pollution from the poultry industry is a major source of concern in Georgia. Georgia leads the nation in broiler production, with over one billion broilers produced annually, generating nearly $ 2.5 billion in gross revenue.

n78 Broilers are chickens that are slaughtered for their meat, as opposed to hens, which are raised for [*1042] their eggs. n79 Georgia has over 6700 poultry houses, which produce over one million tons of litter-the accumulation of manure and bedding material- annually. n80 The phosphorous content of this litter is equivalent to the amount of phosphorus generated in the sewage of forty million people; the litter also produces 30,000 tons (60,000,000 pounds) of nitrogen per year. n81 One poultry house alone can hold 22,000 chickens and can produce nearly 150 tons of litter per year. n82

Runoff due to leaching of uncovered litter piles and over-application of crop fertilizer has contaminated a number of Georgia watersheds. n83 For example, the Lower Little Tallapoosa River watershed in west central Georgia is home to more than twenty-five million broilers, which generate nearly 27,000 tons of waste annually. n84 Most of these birds are raised in facilities lacking adequate methods of waste and dead bird disposal. n85 In turn, these facilities discharge over 110 tons of nitrogen and twenty-nine tons of phosphorus into the watershed's wetlands and streams. n86

Poultry farms have also heavily polluted the Five Points Area Watershed. n87 In a 1993 assessment, none of the area's six poultry farms had waste management systems; as a result, these farms discharged thirty-one tons of nitrogen and ten tons of phosphorus into the watershed's streams and wetlands. n88

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Finally, the Apalachicola-Chattahoochee-Flint (ACF) River Basin's 250 million chickens contributed about 120,000 tons of nitrogen and 28,000 tons of phosphorus in 1990; the vast majority of the waste was "concentrated in a five-county area in the headwaters of the Chattahoochee River" in north Georgia. n89 The United States Geological Survey (USGS) has recommended that "more extensive control of stormwater runoff from poultry production . . . would be needed to significantly reduce eutrophication of lakes and reservoirs in the . . . Basin." n90 This runoff, combined with intentional dumping and spills, has caused at least fifteen fish kills and prompted at least seven emergency response reports in northeast Georgia since 1979. n91

In addition to surface water impacts, runoff from uncovered manure piles has also negatively impacted groundwater. n92 One recent study revealed "nitrate levels in monitoring wells on [poultry] farms with uncovered manure stacks were above

A's] 10 parts per million [ppm] nitrate-N drinking water standard." n93

III. The Liability Imbalance Between Corporations and Farmers

Although corporate consolidation of agriculture has been a major factor in the increase in environmental pollution that AFOs have caused, most corporations have managed to remain shielded from liability for these impacts despite their superior ability to afford [*1044] pollution prevention and clean up. n94 Corporations avoid liability by using independent contract farmers to grow the animals for them. n95 Under the typical production contracts governing the chicken industry, for example, the corporation owns and supplies the farmer with live, healthy animals. n96 The corporation also determines the number and type of flocks the grower receives, selects the type of feed and medication, dictates how the birds must be raised, controls product distribution, and determines what type of improvements the grower must make. n97

On the other hand, the growers must provide land and buildings; abide by all corporate requirements regarding feeding, watering, sanitation, and litter; and dispose of the dead birds. n98 Most critical to the current discussion, however, is that growers are responsible for the ownership and actual disposal of the enormous amount of animal waste

produced. n99 A typical contract provision states that the grower agrees "[t]o dispose of dead birds, litter and manure in accordance with government regulations." n100 Moreover, the growers must indemnify the integrators for any liability created due to waste pollution problems. n101 A typical indemnification clause outlines that:

Grower further agrees to indemnify [integrator] . . . against any and all losses, claims, damages, actions of any nature whatsoever which are in any manner caused by or which [*1045] result from the presence of the broilers on the premises of Grower, including, but not necessarily limited to matters involving emission complaints, disposal complaints, or pollution complaints, it being expressly understood and agreed that all manure waste material produced or resulting from the broilers shall be the sole property and responsibility of the Grower from and after its production or creation. n102

Thus, the already debt-laden growers are left to bear the entire legal and financial burden of environmental pollution from animals they do not even own. n103

IV. Regulations Governing Animal Feeding Operations Generally and Integrator Liability Specifically

A. Federal Regulations

1. Clean Water Act

The Clean Water Act (CWA) n104 is the primary federal law governing pollutants in the nation's waterways. n105 The CWA generally prohibits the "discharge of any pollutant by any person" into United States waters. n106 However, permits obtained as part of the National Pollutant Discharge Elimination System (NPDES) may permit the discharge of a pollutant into certain waterways. n107

Through the NPDES system, the CWA regulates pollution discharges primarily from point sources, which are "discernible, confined and discreet conveyance[s]," usually from a pipe, ditch, channel, or other structural mechanism; these conveyances are most [*1046] commonly associated with a factory or water treatment plant. n108 Every point source must obtain an NPDES permit, which contains conditions and limitations on the types and quantities of pollutants that may be discharged. n109

The CWA's definition of point source includes a confined animal feeding operation (CAFO). n110 Therefore, operations that are categorized as CAFOs must obtain NPDES permits under the CWA. n111 To be considered a CAFO, one must first determine if a farm is an animal feeding operation (AFO). n112 An AFO is a farm that confines animals for forty-five days or more within any one year period, and on which "crops, vegetation forage growth, or post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility." n113

An AFO is considered a CAFO if it meets one of three requirements: (1) it confines at least 1000 animal units; n114 (2) it confines at least 300 animal units and discharges pollutants directly via manmade pathways; or (3) it confines at least 300 animal units and discharges directly into public waters. n115 Specifically exempted, however, are facilities that discharge wastewater only during a twenty-five year, twenty-four hour storm. n116 Such a storm is a "rain event with a probable recurrence interval of once every twenty- five years." n117

As previously mentioned, there are an estimated 450,000 AFOs in the United States, of which 6600 are CAFOS.

n118 A CAFO operation [*1047] must follow effluent limitations as prescribed in the NPDES permit; currently, the limitations prohibit any discharge into navigable waters except during the twenty- five year, twenty-four hour storm event previously referenced. n119

The NPDES system does not regulate non-point source pollution, such as most farm pollution, which emanates from any area that is not connected to a confined discharge point. n120 This omission in the CWA was due to the enormous number of non- point sources, the lack of control measures, and the belief that state-instituted land use controls were the only viable solution to non-point source pollution. n121

However, the CWA does contain several general requirements governing non-point source pollution. n122 Specifically, states must produce reports that identify navigable waterways contaminated by non-point source pollution, and must develop programs to identify and control specific non-point sources, using best management practices and deadlines to meet certain control targets. n123

Unfortunately, many states have failed to fulfill their obligations under the non-point source program, largely due to political and economic pressure from the agriculture community. n124 Georgia is one such state and is currently under federal court order to improve its identification of impaired waterways. n125 Thus, many AFOs have continued to function in an unregulated fashion. n126

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2. Clinton's Clean Water Action Plan

Recognizing the CWA's inadequacies with regard to reversing non-point source pollution trends, President Clinton released his Clean Water Action Plan in 1998. n127 The Plan provided a blueprint for restoring and protecting water quality across the United States. n128 Furthermore, the Plan identified runoff as the most critical remaining threat to water quality and proposed a coordinated effort to reduce polluted runoff from a variety of sources including AFOs. n129

3. EPA/USDA Unified Strategy for Industrial Farms

Responding to the President's challenge, the U.S. Department of Agriculture (USDA) and the EPA crafted and released a Unified Strategy for Agricultural Feeding Operations (USAFO) n130 that offers a specific roadmap for solving the environmental problem of AFOs. n131 The USAFO's guiding principles include minimizing AFOs' environmental and public health impacts, establishing national performance standards via comprehensive nutrient management plans, providing incentives for sustainable agriculture, and recommending specific regulatory approaches to AFO management. n132

4. EPA Guidance Manual

One of the most important results of the USAFO is the Draft Guidance Manual and Example NPDES Permit for Concentrated Animal Feeding Operations (USAFO). n133 The Manual's goal is to [*1049] offer clear direction to the EPA and to the states on how to issue permits to CAFOs. n134 Specifically, the Guidance Manual describes which facilities must obtain a permit, the key permit elements, the types of permits that may be issued, and the public notice, monitoring, and reporting requirements for permit issuance. n135

The Guidance Manual also expressly addresses the issue of "integrator liability," stating "[c]orporate entities that exercise substantial operational control over a CAFO should be co-permitted along with the CAFO operator." n136 The Guidance Manual specifically states, "[c]orporate entities that exercise such operational control over a CAFO are considered 'operators' of the CAFO under the Clean Water Act." n137

Whether a corporation exerts substantial operational control over a grower's operation is determined on an individual level. n138 Relevant factors to consider in making the determination include

(1) whether the corporate entity directs the activity of persons working at the CAFO either through a contract or direct supervision of, or on-site participation in, activities at the facility; (2) whether the corporate entity owns the animals; or (3) whether the corporate entity specifies how the animals are grown, fed, or medicated. n139

The USAFO guidance on joint liability has ultimately provided states with a foundation upon which to draft their own joint liability policies. n140

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5. EPA's Proposed Regulations

In December 2000, following the USAFO and Draft Guidance, the EPA released proposed revisions to the rules governing AFOs. n141 The revisions would change the definitions of both AFOs and CAFOs and modify the effluent guidelines. n142 Moreover, the revisions would mandate co-permitting by expressly amending the existing definition of "operator" to include persons exercising substantial operational control over CAFOs, thus subjecting such persons to NPDES permitting requirements. n143 The EPA cited several court cases that seem to support this expanded interpretation. n144 Further, the relevant factors in determining such control would be the same factors spelled out in the Draft Guidance; namely, activities direction or supervision, animal ownership, and specification as to how animals are grown, fed and medicated at a facility. Additionally, however, states would be able to develop their own factors. n145 Once identified as an operator and subject to the NPDES permit, the corporate entity would be "held jointly responsible for ensuring that manure production in excess of what can be properly managed on-site is handled in an environmentally appropriate manner." n146

Because they would be held liable for the disposal of excess manure, integrators would have an incentive to ensure the farmer's compliance with the NPDES permit by "(a) establishing a corporate environmental program that ensures that contracts have sound environmental requirements for the CAFOs; (b) ensuring that [contract farmers] have the necessary infrastructure in place to [*1051] properly manage manure; and (c) developing and implementing a program that ensures proper management and/or disposal of excess manure," which could include the siting of central facilities to which growers under contract to one corporation could transfer manure. n147

B. Other States' Regulations

1. Maryland

As one of the nation's largest poultry producing states, Maryland has endured serious pollution problems from poultry waste. n148 Maryland is one-third of the Delmarva peninsula chicken empire, which also includes Virginia and Delaware. n149 The peninsula forms the eastern shore of the Chesapeake Bay. n150 Each year, 600 million chickens

are raised on the peninsula, producing 750,000 tons of manure. n151

This manure is the largest source of nitrogen and phosphorus reaching Chesapeake Bay. n152 Many scientists believe that the excess levels of nutrients and the algae fostered by these influxes led to the 1997 outbreak of pfiesteria, a toxic microorganism that killed 30,000 fish and sickened twenty-seven people. n153 Manure waste has also affected drinking water, with one-third of the drinking water wells around the peninsula exceeding safe levels for nitrate-a chicken [*1052] manure by-product. n154 Moreover, the algae concentrations have suffocated sea grasses that are the critical habitats for fish and crabs, which in turn are valuable natural resources for the area. n155

Largely in response to the furor over the pfiesteria outbreak, in 1998 the Maryland legislature "passed a law requiring growers to test soils to see how much manure can be absorbed, then limit the amount used accordingly." n156 However, poultry companies that owned the birds and contracted with farmers to grow them had no responsibility over the waste; the growers maintained sole liability. n157

To fill this loophole, Maryland followed the EPA's and the USDA's lead by proposing draft language for new CWA permits for the state's biggest chicken companies. n158 Companies risked fines "of up to $ 25,000 a day" if the farmers who grew their birds spread more manure on adjacent crops than the land could safely absorb, and the manure ran off into surface or groundwater. n159 Specifically, the permits would require the companies to provide "a list of their contract growers, specify the amounts of manure generated and indicate how [the manure] will be used . . . ensure that their growers keep [adequate] records . . . and submit to regular inspections." n160 [*1053] The end goal was to ensure that manure does not flow into the area's rivers, streams, bays, and groundwater. n161

Supporters of the new permit requirements argued that the rules "would place the financial burden of finding appropriate disposal methods on those who can best afford it. And they would simplify the policing job by focusing on the companies instead of the thousands of growers they contract with." n162

Conversely, opponents of the new rules contended that the requirements went too far in forcing self-policing of contracting growers. n163 The companies argued that voluntary programs could sufficiently handle the problem. n164 The industries vowed to challenge the proposed rules, though there have been no court challenges thus far. n165

Although the companies lobbied for a voluntary solution to the pollution dilemma, subsequent developments seemingly belied that notion. n166 Tyson Food, Inc., one of the three largest poultry processors whose CWA permit will be affected by the new program, was recently fined $ 70,000 for illegally dumping dead chickens and manure in open pits instead of using storage sheds, violating a 1998 federal pollution ruling. n167

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Despite that incident, the state compromised its final version of the CWA permits released in mid-2001 n168 by dropping the provision for fining companies whose growers fail to properly dispose of poultry waste. n169 Nevertheless, the final version retained other liability provisions, such as requiring the companies to verify that their contract growers have nutrient management plans, maintain records on the number of chickens each farmer raises and the amount of litter they generate, and assist farmers with waste disposal plans. n170 Moreover, "[i]f growers fail to properly dispose of chicken waste, the companies must stop supplying them with new birds to raise until the problems are corrected." n171

2. Kentucky

Over the last decade, Kentucky's poultry industry has grown enormously; the number of broilers produced rose from 1.5 million in 1990 to 200 million in 1999. n172 Currently, the poultry industry is "a $ 680 million annual enterprise with 540 poultry farms and 6,000 employees." n173 This growth has occurred in part as a replacement for the state's shrinking tobacco industry. n174

Along with Kentucky's growth in the chicken industry has come an explosion in chicken manure. n175 In western Kentucky, poultry farming produces over 300 million pounds of chicken litter annually. n176 Although the state has not experienced the same level of [*1055] ground and surface water pollution as Maryland, Kentucky's desire to avoid a catastrophe similar to Maryland's experience in the Chesapeake Bay prompted state officials to move proactively. n177

Early in 2000, Kentucky's General Assembly considered new rules to regulate the largest poultry and hog operations, but failed to reach any agreement after heavy lobbying efforts by the State Agriculture Department and Farm Bureau. n178 In an attempt to fill the void, the State Natural Resources and Environmental Protection Cabinet followed the lead of EPA's USAFO and, in February of 2000, adopted its own emergency regulations that included integrator liability. n179 In the introduction, the rules state that

an emergency exists of an imminent threat to the public health and welfare because changes in the pork, poultry, beef and dairy industries have brought a renewed interest in confined animal feeding operations in Kentucky that have created an urgent need to review and update Kentucky's current environmental permitting program. n180

In the owner and operator liability section, the regulations outline that:

(1) All persons who own or operate a concentrated animal feeding operation shall sign an application for and obtain a KPDES permit [the state analogue of the NPDES permit]. This includes a person who enters into a contract with an owner or operator of a concentrated animal feeding operation if the person: (a) Owns the animals; (b) Directs the manner in which the animals will be housed or fed; or (c) Controls the inputs or other material aspects of the [*1056] concentrated animal feeding operation. (2) All owners and operators of a concentrated animal feeding operation shall be jointly and severally liable for complying with the KPDES permit. n181

The factors for co-permitting mimic those of the EPA's Draft Guidance and the subsequently proposed EPA regulations. n182 The regulatory impact analysis outlines: "The integrator liability provisions of this administrative regulation seek to ensure the proper mitigation or clean up of a spill or accident by ensuring that sufficient funds are available." n183

Subsequently, the Kentucky Farm Bureau Federation filed suit to challenge the new rule. n184 The Farm Bureau argued that the rule was illegal because state law prevents state regulations from being more stringent than federal requirements, and that contrary to the state's premise, no emergency existed. n185 In explaining the suit, the President of the Kentucky Farm Bureau said, "[w]e believe legal action . . . is absolutely necessary to protect Kentucky agriculture, especially livestock farmers." n186

With regard to the integrator liability section, the language is consistent with federal recommendations as laid out in the Draft Guidance and in the subsequently released proposed regulations; thus, contrary to the Farm Bureau's assertion, Kentucky is not pursuing a more stringent strategy than that of the federal government. n187

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V. Georgia's AFO Regulations, Legislative Backlash, and the Integrator Liability Debate

A. Hog Farm Regulations

The catalyst for Georgia's regulatory response to its own pollution issue came from attention given national agriculture pollution events, particularly the scrutiny given North Carolina's agricultural policies. n188 Between 1990 and 1998, the number of hogs in North Carolina skyrocketed to over 9.5 million, surpassing the state's human population of 7.4 million. n189 For most of the 1990s, the state hog industry's political power prevented the legislature from enacting significant hog farm guidance. n190 With no adequate environmental protections in place, catastrophes resulted, the most notorious of which was the "25 million gallon hog-waste spill . . . that killed [10] million fish and closed 364,000 acres of coastal wetlands to shellfishing in 1995." n191

As a result of this and many other pollution events, North Carolina finally clamped down on the hog industry and in 1997 passed a moratorium on new operations. n192 In response, several hog farmers attempted to relocate and set up hog farms in Georgia. n193 Melvin Purvis of Robbins, North Carolina, was one of these farmers who "was banned from building more farms in his home state because of illegal [discharges and spills]." n194 Purvis sought to build a mega-hog farm with over 20,000 animals in Taylor County, Georgia, south of Atlanta. n195 Taylor County citizens, concerned with Purvis' reputation [*1058] and the potential for water and air pollution in their community, organized opposition to the plant, and filed a nuisance suit to enjoin the farm's construction. n196 A similar fight erupted in southeast Georgia in Tattnall County over a proposed mega-farm housing 10,000 animals. n197

In direct response to the public outcry from the Taylor and Tattnall County fights, and in an attempt to prevent the North Carolina problems from occurring in Georgia, the Georgia Natural Resources Board passed new regulations governing both new and existing hog farms. n198 Some of the rule's specific provisions included prohibiting any discharge or uncontrolled farm waste runoff; individual permitting of farms with greater than 2500 hogs (there are seventy-three such farms in Georgia); requiring farmers to submit waste control plans for state approval; maintaining buffers around waste lagoons and fields upon which liquid manure is applied as fertilizer, to mitigate odor and waste runoff; monitoring groundwater to detect contamination; and requiring up-front bonding to pay for clean up or closure of broken or abandoned lagoons. n199

With an emphasis on controlling the largest farms, the new rules sent a strong message to prospective industrial hog farmers that Georgia would not tolerate the same degree of laxity which had contributed to North Carolina's devastating problems. n200

B. Legislative Response to Hog Regulations: HB 1182

Georgia's agricultural industry adamantly opposed the new hog regulations. n201 Although its lobbying efforts had helped soften the rules, the industry believed that the final product was still too onerous [*1059] and costly. n202 The industry was also fearful of the precedent that the hog rules would set for future rulemaking on other agricultural industries, namely poultry and dairy. n203 To forestall such regulatory expansion, the Georgia Farm Bureau wrote and helped pass House Bill 1182, n204 which would have given the Georgia General Assembly the power to override not only the newly passed hog regulations, but potential future rules governing poultry and cattle as well. n205 Specifically, the proposed legislation would have amended a law that shields DNR from repeal. n206 The existing statute's relevant section states:

In the event a standing committee to which a notice is assigned . . . files an objection to a proposed rule prior to its adoption and the agency adopts the proposed rule over the objection, the rule may be considered by the branch of the General Assembly whose committee objected to its adoption by the introduction of a resolution for the purpose of overriding the rule n207

Section (g) states: "Subsection (f) of this Code section shall not apply to the . . . Department of Natural Resources." n208 The proposed statute would have deleted section (g), thus opening up for repeal any DNR regulations of specific agriculture industries that imposed a larger or different burden than existing federal regulations. n209

Fearing the impact that the new statute would have on environmental protection in Georgia as well as future regulations governing poultry, a coalition of environmental and conservation [*1060] groups pressed the Governor to veto the bill. n210 The EPA also weighed in, contending that because the statute would lengthen the time needed to enact water protection rules, the EPA would possibly impose tighter water quality standards on Georgia. n211 Governor Barnes vetoed the bill on constitutional grounds, saying that the bill violated the state's presentment clause. n212

C. Non-Swine Regulations and Integrator Liability

Before the Governor vetoed H.B. 1182, the DNR released its first version of proposed rules for the chicken and cattle farming industries. n213 The DNR was motivated in large part by the fact that the poultry industry is the largest of Georgia's agricultural sector and, if left unchecked, could potentially increase surface and groundwater problems, which will conflict with the increasing demands for clean drinking water brought on by a growing statewide population. n214 Like the rules governing hog farms, the non-swine rules would have prohibited discharge into ground or surface waters, and would have required larger farms to obtain individual NPDES permits, construct approved waste storage and disposal systems, undergo operator training and monitoring, and maintain vegetated buffers around the fields on which farmers apply the waste as fertilizer. n215

[*1061]

The non-swine rules would have also included a separate express requirement for integrator liability. There, the animal owners and the operators of the largest growing farms would be co-permitted, rendering them jointly and severally liable for any pollution violations. n216 Specifically, the integrator liability language stated:

(a) All persons who own or operate a new animal feeding operation with more than 3000 AU [animal units] shall sign an application for and obtain an individual NPDES permit. This includes a person who enters into a contract with an owner or operator of a new animal feeding operation with more than 3000 AU if the person: (1) Owns the animals; (2) Directs the manner in which the animals will be housed or fed; or (3) Controls the inputs or other material aspects of the animal feeding operation.

(b) All owners and operators of an animal feeding operation with more than 3000 AU shall be jointly and severally liable for complying with the NPDES permit. n217

In arguing for the integrator liability clause, the DNR Board's chairwoman said: "We may have a problem of such magnitude that the farmer couldn't handle it . . . . We need to protect Georgia taxpayers from liability for millions of dollars in cleanup costs." n218

The poultry industry lobbied the DNR Board to remove the integrator liability section from the rule. n219 The Georgia Poultry Federation argued that co- permitting is a bad policy, not authorized by state or federal law, and has been attempted in only one other [*1062] state-Kentucky. n220 Further, the Federation contended that voluntary waste- management programs, which it helps develop and maintain for poultry farmers, could sufficiently handle the problem. n221 The Georgia Department of Agriculture also weighed in against integrator liability, arguing that requiring such legal accountability could "force many contract poultry farmers out of business and discourage small family farms. Liability is a legal area best administered by the courts and other judicial precedents." n222

In September 2000, the Georgia Attorney General issued a preliminary ruling, stating that, as written, the integrator liability provision exceeded the state's authority under the Georgia Water Quality Control Act. n223 Specifically, the Attorney General stated that while the corporations may own the chickens grown on the farms, they do not operate the farms and thus are not required to obtain permits. n224

The Attorney General's narrow interpretation of the word "operate" ignored the EPA's Guidance on integrator liability, which describes "substantial operational control" as the critical factor. n225 However, the opinion did state "there may be circumstances under which Integrators may be obligated by law to obtain a permit from the Director." n226

In response to the Attorney General's opinion, the DNR Board decided to delay consideration of, and voting on, the proposed rules [*1063] as written. n227 While the poultry industry was pleased with this development, repeating that voluntary efforts to control waste via adoption of best management practices should satisfy concerns, contract chicken growers and conservationists expressed a mix of frustration and hope for future improvements. n228 One grower said, "learning 'best-management practices' isn't going to be enough in northeast Georgia, where the simple logic of too much manure and not enough places to put it eventually is going to catch up with the industry." n229 The grower also commented that "[w]e don't want to be saddled with the sole responsibility." n230 Justine Thompson, Director of the Georgia Center for Law in the Public Interest, has further stated: "We hope that this postponement means the board will take this time to make the rules even stronger to protect our natural resources." n231

At the end of October 2000, the Georgia DNR released a revised proposed rule. n232 The new revision specifically addressed the Georgia Attorney General's concerns regarding integrator liability/joint permitting by removing the separate express requirement that all large farm owners and operators obtain permits, allowing the agency instead to make case-by-case determinations of whether a person is a farm operator. n233 The new, revised amendment includes a specific definition for "operator":

"Operator" means a person who exercises substantial operational control over an AFO. The determination of whether a person exercises substantial control over an AFO shall be made by the Division [the Environmental [*1064] Protection Division of the Georgia DNR] on a case-by-case basis. Factors to be considered relevant when determining whether a person exercises substantial operational control over an AFO shall include, but not be limited to: (1) the scope of, and degree to which the person directs the day-to-day activity of the AFO, either through contract provisions, or direct supervision of, or on-site participation in, activities at the facility; (2) whether the person owns the animals housed at the AFO; (3) whether the person specifies how the animals are grown, fed, or medicated; and (4) the degree to which the person controls or directs the handling of waste generated by the operation. The Division may identify and consider other factors that can be used to determine whether a person has substantial operational control over an AFO. n234

Like the previous proposal, the revised proposal requires co-permitting for the owners of new facilities with over

3000 animal units, which translates to over 300,000 chickens. n235 The requirement specifically stated, "[b]oth the owner and operator of a new AFO with more than 3000 AU must obtain an individual NPDES permit." n236 For existing operations that through expansion would have more than 3000 animal units, only the owner-the farmer-"must" obtain a permit, while the operator-the corporation-"may" have to obtain a permit. n237

Despite the rule's revision, opposition remained to any integrator liability language. n238 A member of the DNR Board called the rule "a [*1065] huge intrusion into a very important industry in this state" and criticized that the rule was "looking for a problem." n239 The Board member opined that extending liability to poultry companies would either force them to run farms themselves or severely intrude on family farmers' decision-making. n240

This sentiment was apparently persuasive, as the DNR Board formally decided to strip the rule of any integrator language. n241 Specifically, the promulgated rule completely omits the "operator" definition that included the factors the agency could consider in deciding whether a corporate entity exercised substantial operational control. n242 Further, the rule omits the requirement that both owners and operators of farms with greater than 3000 AU obtain permits. n243

D. Potential Conflict with EPA's Proposed Rules

The Georgia DNR Board's decision to not require co-permitting and joint liability puts Georgia's regulatory scheme in potential conflict with the EPA's proposed rules governing CAFOs. n244 The current EPA proposal clarifies that all entities exercising substantial operational control over a CAFO must obtain NPDES permits as facility operators and are therefore jointly responsible for excess manure disposal in order to remain in compliance with the permit's effluent limitations. n245 The factors relevant to determining substantial operational control-direction or supervision of activity, ownership of animals, and instruction as to how animals are to be grown and [*1066] fed-are identical to those that appeared in Georgia's first version of its proposed rules and were subsequently removed. n246

The express provisions in the typical production contract between corporations and growers also include these same factors. n247 Thus, despite the fact that corporate owners clearly exercise substantial operational control of CAFOs through their contracts, they will continue to be shielded from liability in Georgia for problems caused by excess manure unless the EPA rules are finalized as the baseline that all states must adopt. n248

Whether the potential conflict between the EPA and Georgia will be realized remains to be seen. The same industry opposition that succeeded in removing integrator liability from Georgia's rule may be equally successful at the federal level.

Conclusion

Thirty years after the Cuyahoga River burned, the United States is again at an environmental crossroads, this time due in large part to agricultural impacts. n249 As both consumers' appetite for inexpensive meat products and global competition continue to increase, the agricultural industry will likely further consolidate-leaving fewer companies to control this country's vast amount of food production. n250 Consequently, the number of animals and volume of animal waste will increase while the waste is disposed of on smaller parcels of land, further straining our rivers, lakes, streams and drinking water. n251 With Georgia's growing human population [*1067] dependent upon these same water resources, the potential for continued and worsening conflict is all too real. n252

As the nation's leader in poultry production, Georgia had the opportunity to demonstrate proactive leadership on liability issues surrounding managing poultry waste; such leadership could arguably prevent the type of environmental problems experienced in the Chesapeake Bay area and other regions. n253 Meanwhile, Georgia has decided to rely upon a voluntary approach and to maintain a corporate owners' liability shield. n254 However, as Kentucky, Maryland, and our own Georgia growers have recognized, voluntary programs are simply ill-equipped to handle the voluminous waste that CAFOs produce. Such programs also provide inadequate incentives for bad actors to alter their ways. n255

"As the integrator stands to make [the] most profit from poultry production and has most control over the organization of the industry, increased responsibility should be assigned to these companies in dealing with excess animal waste." n256 Through its proposed integrator liability rules, the EPA is attempting to do just that-that is, correct the imbalance of power and properly shift the burden of pollution prevention and clean up away from individual farmers who cannot afford it to corporations that can. n257 Should the EPA succeed, the result will be a cleaner, healthier, and more equitable society, both in Georgia and nationwide.

Legal Topics:

For related research and practice materials, see the following legal topics:
GovernmentsAgriculture & FoodGeneral OverviewReal Property LawWater RightsGroundwaterTortsStrict LiabilityHarm Caused by AnimalsGeneral Overview

FOOTNOTES:

n1 See U.S. Dep't of Agric. & U.S. Envt'l Prot. Agency, Unified National Strategy for Animal Feeding Operations, § 1.1, (Mar. 9, 1999), available at http://epa.gov/owm/finafost.htm [hereinafter Animal Strategy].

n2 33 U.S.C. §§ 1251-1387 (1994).

n3 See Animal Strategy, supra note 1, § 1.1; Dave Cazier & Alissa Salmore, The Etowah Initiative: Poultry Waste Management for Better WaterQuality in the Etowah River 1 (1998).

n4 See Dana R. Flick, Comment, The Future of Agricultural Pollution Following USDA and EPA Drafting of a Unified National Strategy for Animal Feeding Operations, 8 Dick. J. Envtl. L. & Pol'y 61 (1999) (describing agricultural pollution as one of the biggest threats to water quality).

n5 Animal Strategy, supra note 1, § 1.1; see Penny Loeb, Very Troubled Waters: Despite the Clean Water Act, the Quality of Rivers Worsens, U.S. News & World Rep., Sept. 28, 1998, at 1, 2.

n6 See Animal Strategy, supra note 1, § 1.1.

n7 Id. § 2.1.

n8 See John D. Burns, Comment, The Eight Million Little Pigs - A Cautionary Tale: Statutory and Regulatory Responses to Concentrated Hog Farming, 31 Wake Forest L. Rev. 851 (1996) (discussing how a

series of hog sewage spills forced North Carolina to adopt regulations to control industrial hog farm pollution); Michael Satchell, Hog Heaven - And Hell: Pig Farming Has Gone High-Tech, and That's Creating New Pollution Woes, U.S. News & World Rep., Jan. 22, 1996.

n9 See John P. Almeida, Note, Nonpoint Source Pollution and Chesapeake Bay Pfiesteria Blooms: The Chickens Come Home to Roost, 32 Ga. L. Rev. 1195 (1998) (describing the pfiesteria outbreak in the Chesapeake Bay region and various legislative and regulatory responses).

n10 See Bob Dart & Eunice Moscoso, Farm Wastes, Other Pollutants Are Tainting State's Waterways, Hurricane Floyd: The Aftermath, Atlanta J. Const., Sept. 22, 1999, at A12.

n11 See generally J.B. Ruhl, Farms, Their Environmental Harms, and Environmental Law, 27 Ecology L.Q. 263, 285-87 (2000) (describing how, despite progress in pollution prevention in urban industrial settings, agriculture remains as a relatively unregulated threat to public health and the environment).

n12 See, e.g., U.S. Dep't of Agric., Natural Res. Conservation Serv., Lower Little Tallapoosa River Revised Watershed Plan and Environmental Assessment: Carroll, Haralson, and Heard Counties, Georgia (1995) (describing the extent of poultry's contribution to nutrient contamination of wetlands and streams in watershed) [hereinafter Tallapoosa].

n13 See Charles Seabrook, State Oks Hog Farm Waste Rules, Atlanta J. Const., June 11, 1999, at C1; see also Thomas R. Head, III, Local Regulation of Animal Feeding Operations: Concerns, Limits, and Options for Southeastern States, 6 Envtl. Law. 503, 532 (2000) (summarizing hog farm rules).

n14 See Dave Williams, Barnes Vetoes Bill Weakening EPD: Governor Cites Provision in Motion to Override His Power, Pledges to Support Farmers in Future, Augusta Chron., Apr. 29, 2000, at D5.

n15 See id.

n16 See Animal (Non-Swine) Feeding Operations - State of Georgia, Amendment to Georgia Rules and Regulations for Water Quality Control, Ga. Comp. R. & Regs. r. 391-3-6-.21(2)(k), - (8)(a)(2) (Oct. 31, 2000) [hereinafter Second Edition Non-Swine Rules].

n17 See Georgia Rules and Regulations for Water Quality Control, Chapter 391-3-6-.21 (revised Oct. 2001) [hereinafter Final Non-Swine Rules]; Proposed National Pollutant Discharge Elimination System Permit Regulation and Effluent Limitations Guidelines and Standards for Concentrated Animal Feeding Operations, 66 Fed. Reg. 2960, 3023 (Jan. 12, 2001) (to be codified at 40 C.F.R. pts. 122, 412) [hereinafter Proposed EPA Rules].

n18 See Anita K. Chancey, Comment, "Clean Water Act Compliance Audit Program for Pork Producers": How Was Such an Agreement Between EPA and the National Pork Producers Reached?, 7 Mo. Envtl. L. & Pol'y Rev. 62, 62-63 (2000) (describing the evolution of farming from family to corporate focused).

n19 Id. at 62.

n20 See Proposed EPA Rules, supra note 17, at 2974.

N21 See Minority Staff of Senate Comm. On Agric., Nutrition, and Forestry, 105th Cong., Animal Waste Pollution in America: An Emerging National Problem 3 (1997) [hereinafter Senate Report].

n22 Chancey, supra note 18, at 62. "The average number of hogs raised per operation rose from under 100 hogs to more than 500 hogs between 1974 and 1997." Proposed EPA Rules, supra note 17, at 2794.

n23 Head, supra note 13, at 512.

n24 See Senate Report, supra note 21, at 3. Chicken farm operations averaged 281,700 birds in 1997, an increase from 73,300 birds in 1974. See Proposed EPA Rules, supra note 17, at 2974.

n25 Dan Fesperman & Kate Shatzkin, The Plucking of the American Chicken Farmer, Balt. Sun, Feb. 28, 1999, at C1.

n26 See Pam Bowers, How Industry's Top Performers Harvested Profits in 1998, Poultry Mag., June/July, 1999, at 24.

n27 Id. at 26.

n28 See Nat'l Contract Growers Ass'n, Executive Summary, America's Poultry Industry - Hidden Scandal of Injustice 1 (on file with the Georgia State University Law Review) [hereinafter Hidden Scandal].

n29 See Bowers, supra note 26, at 24.

n30 See Fesperman & Shatzkin, supra note 25, at 2.

n31 See Jingle Davis, Poultry Contracts Paltry, Some Say, Atlanta J. Const., June 4, 2000, at D4.

n32 See U.S. Census Bureau, Poverty 2001, available at http://www.census.gov/hhes/poverty/thtreshld/thresh01.html (last visited Feb. 20, 2002) (describing U.S. poverty thresholds in 2001); Fesperman & Shatzkin, supra note 25, at 3. The poverty line is $ 14,000 per year for a family of four. U.S. Census Bureau, supra.

n33 See Peter S. Goodman, Chicken's Big Impact, Wash. Post, Aug. 1, 1999, at 6 [hereinafter Goodman, Big Impact].

n34 Id.

n35 See Animal Strategy, supra note 1, § 2.1.

n36 See Terence J. Centner, Concentrated Feeding Operations: An Examination of Current Regulations and Suggestions for Limiting Negative Externalities, 25 Colum. J. Envtl. L. 219, 220 (2000).

n37 See id. at 223; Flick, supra note 4, at 63.

n38 See U.S. Envtl. Prot. Agency, The Quality of Our Nation's Waters: A Summary of the National Water Quality Inventory: 1998 Report to Congress 6-9 (2000); U.S. Envtl. Prot. Agency, Strategy for Addressing Environmental and Public Health Impacts from Animal Feeding Operations 1-2 (proposed Mar. 4, 1998) (Draft proposal) [hereinafter Health Impacts].

n39 See Ruhl, supra note 11, at 277-78. Converting natural ecosystems to cropland causes a loss of organic matter; thus, farms are the leading cause of soil erosion nationally. Id. at 277. Annual discharge of soil to waterways is estimated at nearly 1.5 billion tons, including sediments and solids. See id. at 278. Sedimentation of rivers and streams increases water temperature and decreases sunlight penetration, both of which negatively impact aquatic spawning as well as plant reproduction. See id. Every year, over 750 million pounds of pesticides are applied to crops in the U.S. Id. at 282. Fertilizers cause 1.16 million tons of phosphorus and 4.65 million tons of nitrogen to be discharged into waterways each year. Id. at 285.

n40 Health Impacts, supra note 38, at 2.

n41 See Animal Strategy, supra note 1, § 2.1.

n42 See id.

n43 See Senate Report, supra note 21, at 1.

n44 See id. at 1-2.

n45 See id.; James O. Donald, Ala. Cooperative Extension Serv., Auburn Univ., Litter Storage Facilities 1 (1990).

n46 See id.

n47 Head, supra note 13, at 515.

n48 See Senate Report, supra note 21, at 1.

n49 See id. at 2 (emphasis omitted).

n50 See Cazier & Salmore, supra note 3, at 3.

n51 See Donald, supra note 45, at 1; Larry Vest et al., University of Georgia Cooperative Extension Service, Poultry Waste: Georgia's 50 Million Dollar Forgotten Crop 1 (1996).

n52 See Senate Report, supra note 21, at 1.

n53 D.R. Edwards & T.C. Daniel, Effects of Poultry Litter Application Rate and Rainfall Intensity on Quality of Runoff From Fescuegrass Plot, 22 J. Envtl. Quality 361, 362 (1993).

n54 Robert Innes, Regulating Livestock Waste: An Economic Perspective, Choices, Second Quarter, 1999, at 14.

n55 Head, supra note 13, at 516.

n56 See Health Impacts, supra note 38, at 2. According to the EPA, nutrients such as phosphorus and nitrogen are the leading stressor in impaired lakes, ponds, and reservoirs, the third most frequent stressor in impaired rivers and streams, and the fourth greatest stressor in impaired estuaries. Proposed EPA Rules, supra note 17, at 2976.

n57 See Edwards & Daniel, supra note 53, at 361.

n58 See Proposed EPA Rules, supra note 17, at 2979.

n59 Almeida, supra note 9, at 1195; Sabrina Ise Lovell & Peter J. Kuch, Rethinking Regulation of Animal Agriculture, Choices, Second Quarter, 1999, at 9.

n60 See Almeida, supra note 9, at 1195.

n61 Proposed EPA Rules, supra note 17, at 2983.

n62 See id.

n63 See id.; see also Burns, supra note 8, at 860 (describing how cryptosporidium from slaughterhouse runoff contaminated Milwaukee's drinking water supply, killing several people and sickening "between 183,000 and 281,000 people").

n64 See Senate Report, supra note 21, at 2.

n65 Proposed EPA Rules, supra note 17, at 2983.

n66 Head, supra note 13, at 521.

n67 See Proposed EPA Rules, supra note 17, at 2978.

n68 See id.

n69 Ruhl, supra note 11, at 291.

n70 Health Impacts, supra note 38, at 2.

n71 See Martha L. Noble & J.W. Looney, The Emerging Legal Framework for Animal Agricultural Waste Management in Arkansas, 47 Ark. L. Rev. 159, 162 (1994).

n72 See id.

n73 See Denise Giardina & Eric Bates, Fowling the Nest, S. Exposure, Spring, 1991, at 9.

n74 See Lee M. Myers et al., Impact of Poultry Mortality Pits on Farm Groundwater Quality, presented at 1999 Georgia Water Resources Conference (Mar. 30, 1999) (paper on file with the Georgia State University Law Review).

n75 See Giardina & Bates, supra note 73, at 9 (describing how composting machines cost more than $ 100,000).

n76 See Noble & Looney, supra note 71, at 162-63.

n77 David Whitman & Joel Bourne, Hell in High Water: Hurricane Floyd Leaves Behind an Environmental Nightmare, U.S. News & World Rep., Oct. 4, 1999, at 22.

n78 See Davis, supra note 31, at D4; see also Drs. Bill Segars & Dan Cunningham, University of Georgia Cooperative Extension Service, Presentation to the Georgia Poultry Federation Board Meeting (July 29, 1999) [hereinafter Presentation].

n79 See Proposed EPA Rules, supra note 17, at 2991-92.

n80 See Presentation, supra note 78, at 4.

n81 This figure is derived by multiplying 6700, the number of poultry houses in Georgia, by 6000, the number of people that generate the equivalent phosphorus level as one chicken house. See id.; Senate Report, supra note 21, at 3.

n82 This figure is derived by dividing one million tons, the total amount of litter produced annually in Georgia, by 6700, the number of chicken houses, each of which averages 22,000 birds. See Presentation, supra note 78, at 4.

n83 See Tallapoosa, supra note 12, at 22.

n84 Id.

n85 See id.

n86 See id.

n87 See U.S. Dep't Agric./Soil Conservation Serv., Five Points Area Watershed Plan and Environmental Assessment, Dooly, Houston and Macon Counties, Georgia 23 (1993).

n88 Id.

n89 See U.S. Geological Survey, Nutrient Sources and Analysis of Water-Quality Data, Apalachicola-Chattahoochee-Flint River Basin, Water-Resources Investigations Report 23 (1990) [hereinafter Apalachicola].

n90 Id. at 16.

n91 See Letter from Justine Thompson, Executive Director, Georgia Center for Law in the Public Interest, to Department of Natural Resources Board Members (May 10, 2000) (on file with the Georgia State University Law Review). For example, a 1985 report of a fish kill on an Oconee River tributary stated that "the fish kill was caused by hog and chicken manure" most likely from "an old manure pile next to the creek that had been eroded by rains." Id.

n92 Myers et al., supra note 74, at 1.

n93 Id. (emphasis added). From 1972-1990, ten percent of wells in the ACF River basin-an area with large numbers of poultry farms-had elevated nitrate concentrations. See Apalachicola, supra note 89, at 2.

n94 See Peter S. Goodman, Who Pays for What is Thrown Away?, Wash. Post, Aug. 3, 1999, at A1 [hereinafter Goodman, Thrown Away].

n95 See id. Contract production is most prevalent in the poultry industry, where an estimated ninety-seven percent of all broiler chickens raised on farms are not owned by the farmer who grows them. See Proposed EPA Rules, supra note 17, at 2975.

n96 Seaboard Farms Broiler Growing Agreement 2 (contract on file with the Georgia State University Law Review) [hereinafter Seaboard Agreement]. The relevant language states: "Seaboard and Grower agree: A. That title to all broilers, feed, medication and supplies delivered to Grower by Seaboard shall at all times vest in Seaboard . . . ." Id.

n97 Id. at 1-3.

n98 Id. at 1.

n99 Id. at 3.

n100 Id. at 2.

n101 Id. at 3.

n102 Seaboard Agreement, supra note 96, at 3 (emphasis added).

n103 See id.; see also Davis, supra note 31, at D4.

n104 33 U.S.C. §§ 1251-1387 (1994).

n105 See Flick, supra note 4, at 62.

N106 33 U.S.C. § 1311(a).

n107 Id. § 1342(a).

n108 Id. § 1362(14); Flick, supra note 4, at 67.

n109 33 U.S.C. §§ 1342(a), 1362(12).

n110 Id. § 1342(a).

n111 See Lovell & Kuch, supra note 59, at 10.

n112 See Head, supra note 13, at 523.

n113 40 C.F.R. § 122.23(b)(1)(ii).

n114 One thousand animal units are the equivalent of 2500 hogs, each weighing at least 55 pounds, or 100,000 chickens. See id. § 122.23, App. B.

n115 Id.

n116 Noble & Looney, supra note 71, at 170.

n117 See 40 C.F.R. § 412.11(e).

n118 See Animal Strategy, supra note 1, § 2.1.

n119 See 40 C.F.R. §§ 411.11(e), 412.12(a) (1995).

n120 See Centner, supra note 36, at 224-25.

n121 See Head, supra note 13, 526 n.131; Kristen E. Mollnow, Note, Concerned Area Residents for the Environment v. Southview Farm: Just What is a Concentrated Animal Feeding Operation Under the Clean Water Act?, 60 Alb. L. Rev. 239, 248 (1996).

n122 See 33 U.S.C. § 1329 (1994).

n123 Id.

n124 See, e.g., Natural Res. Def. Council, America's Animal Factories: How States Fail to Prevent Pollution from L i v e s t o c k W a s t e , a t http://www.nrdc.org/water/pollution/factor/exec.asp (last visited Jan. 29, 2002) [hereinafter NRDC Report].

n125 Joint Task Force of the Metro Atlanta Chamber of Commerce & the Regional Business Coalition, Final Report of the Clean Water Initiative 12 (2000), available at http://www.cleanwaterinitiative.com [hereinafter Clean Water Initiative].

n126 See id.

n127 See Clean Water Action Plan (Feb. 1998), available at http://www.cleanwater.gov.

n128 See generally id.

n129 See id. at 35.

n130 See generally Animal Strategy, supra note 1.

n131 See id.

n132 See id. § 1.2.

n133 U.S. Envtl. Prot. Agency, Guidance Manual and Example NPDES Permit for Concentrated Animal Feeding Operations, R e v i e w D r a f t (1 9 9 9) , a v a i l a b l e a t http://www.epa.gov/owmitnet/afo.htm [hereinafter Draft Guidance].

n134 See id. § 1.3.

n135 See id.

n136 See id. § 2-10.

n137 Id.

n138 Id.

n139 Id.

n140 See infra Part IV.B.

n141 See generally Proposed EPA Rules, supra note 17.

n142 See id.

n143 See id. at 3023.

n144 See id. at 3024; see also United States v. Lambert, 915 F. Supp. 797, 802 (S.D. W. Va. 1996) ("The [Clean Water Act] imposes liability both on the party who actually performed the work and on the party with responsibility for or control over performance of the work."); United States v. Sargent County Water Res. Dist., 876 F. Supp. 1081, 1088 (D.N.D. 1992) ("Liability under the CWA is predicated on either 1) performance of the work, or 2) responsibility for or control over performance of the work.").

n145 See Proposed EPA Rules, supra note 17, at 3024.

n146 Id. at 3025.

n147 Id. Corporate permittees would also share liability for manure that is transferred off site by one of their contractors. See id. Joint liability will also prompt integrators to ensure that poultry waste is properly stored in

enclosures impervious to weather and is sustainably applied as fertilizer to prevent runoff and spills and avoid the much larger costs of fines and cleanup. See id. Further, integrators would likely invest in alternative manure processing technologies including converting manure into fertilizer pellets for controlled re-sale and providing fuel for waste-to-energy power plants. See, e.g., Disposal of Chicken Waste; Processor Permits; State to Require Poultry Plants to Share Farmers' Burden for Manure Control, Editorial, Balt. Sun, Apr. 5, 1999.

n148 See Goodman, Big Impact, supra note 33, at 6.

n149 Id.; Steven Greenhouse, Priest vs. 'Big Chicken' in Fight for Labor Rights, N.Y. Times, Oct. 6, 1999, at A12.

n150 See Goodman, Big Impact, supra note 33, at 6.

n151 See Goodman, Thrown Away, supra note 94, at A1.

n152 See Goodman, Big Impact, supra note 33, at 6.

n153 See id. at 2; Sierra Club, Is Piglet Poisoning the Well? (1998); see also Almeida, supra note 9, at 1195.

n154 See Goodman, Big Impact, supra note 33, at 6.

n155 See Peter S. Goodman, From Farm to Slaughterhouse, Wash. Post, Aug. 3, 1999, at 1.

n156 Anita Huslin, Md. Aims to Tighten Chicken Waste Rules, Wash. Post, Aug. 9, 2000, at B1 [hereinafter Huslin, Chicken Waste].

n157 Id.

n158 See id.; see also Letter from J. Charles Fox, Assistant Administrator, U.S. Environmental Protection Agency, to Jane Nishida, Secretary, Maryland Department of the Environment 1 (Mar. 23, 1999) (on file with the Georgia State University Law Review). In response to Maryland's inquiry regarding EPA's ability to impose integrator liability, the EPA indicated that: [w]here two entities are both responsible for adding pollutants to the waters, EPA has authority to require both to be permitted . . . . In this case, EPA believes that corporate entities that exercise substantial control over operators of . . . (CAFOs) should be permitted together with the CAFO because they are both responsible for the addition of pollutants to the waters . . . . EPA expects all NPDES authorized States, including Maryland to use this authority. Id.

n159 See Huslin, Chicken Waste, supra note 156, at B1.

n160 See id.

n161 Id.

n162 See id.; see also Laurie Triefeldt, Pollution Controls May Make Poultry Manure a Liability, Gainesville Times (Florida), Aug. 9, 1999, at A1. In further justifying the joint liability scheme, Maryland regulators have said that [o]nly the big chicken companies . . . have the deep pockets, distribution systems, and business savvy to develop alternative uses for chicken manure-perhaps burning it as fuel or converting it into fertilizer pellets that can be economically trucked away . . . . "Farmers are not going to be able to dispose of all this stuff on their farms . . . . The companies are the only ones that can market it and get rid of it." Id. (quoting Dave Baver, Deputy Director of Water Management at the Maryland Department of the Environment).

n163 See Heather Dewar, Poultry Firms Assail Manure Disposal Plan: State Wants Processors to Get Rid of Waste Generated by Growers, Balt. Sun, Aug. 10, 2000, at B2.

n164 See Huslin, Chicken Waste, supra note 156, at B1.

n165 See id.

n166 See Anita Huslin, Tyson Fined $ 70,000 for Dumping, Wash. Post, Sept. 22, 2000, at B3.

n167 Id.

n168 See Anita Huslin, Md. Tightens Poultry Permits: Large Firms Must Ensure Proper Waste Disposal, Wash. Post, July 17, 2001, at B1.

n169 See id.

n170 See id.

n171 Id.

n172 Michael A. Lindenberger, Kentucky Farm Bureaus Suit Against Environmental Cabinet Not a Surprise, Knight-Ridder Trib. Bus. News, June 16, 2000.

n173 Kimberly Hefling, Tensions Surrounding Kentucky's Poultry Industry Growing, A.P. Newswires, Sept. 3, 2000.

n174 See id.

n175 See John Lucas, Chicken Manure Becomes Overwhelming Problem for Kentucky Counties, Evansville Courier & Press (Kentucky), Dec. 5, 1999, at A1.

n176 See id.

n177 James Bruggers & Sara Shipley, The Struggle Over Factory Farms: Tighter Rules Spark Dispute, Courier J. (Louisville), May 28, 2000, at A1.

n178 See Hefling, supra note 173.

n179 See Lindenberger, supra note 172.

n180 401 Ky. Admin. Regs. 5:072E (1999).

n181 Id.

n182 Compare Draft Guidance, supra note 133, § 2.4, with EPA Proposed Rules, supra note 17, at 3024.

n183 401 Ky. Admin. Regs. 5:072E (8)(c). In defending the provision, the Kentucky Secretary of Natural Resources commented that excluding integrator liability would often lead to the less-culpable growers "holding the bag." Charles Wolfe, State Wants Companies to Share Liability on 'Factory Farms', A.P. Newswires, Feb. 10, 2000.

n184 Lindenberger, supra note 172.

n185 Id.

n186 Id.

n187 Compare Draft Guidance, supra note 133, at 2-10, with Proposed EPA Rules, supra note 17, at 3024.

n188 See Charles Seabrook, State OKs Hog Farm Waste Rules, Atlanta J. Const., June 11, 1999, at C1.

n189 SierraClub, Is Piglet Poisoning the Well? (1998).

n190 See generally Satchell, supra note 8.

n191 Ruhl, supra note 11, at 286.

n192 Will Anderson, Hog Farmers' Big Plans Feed Outcry, Atlanta J. Const., Dec. 14, 1997, at H5.

n193 Id.

n194 Id.

n195 Id.

n196 See Will Anderson, Hog Farm Opponents File Lawsuit, Atlanta J. Const., Dec. 16, 1997 at D2.

n197 See Anderson, supra note 192, at H5.

n198 Swine Regulation Amendments to Georgia Water Quality Control Act, Ga. Comp. R. & Regs. r. 391-3-6-.20 (2000) [hereinafter Swine Rules]; see also Seabrook, supra note 188, at C1.

n199 See Swine Rules, supra note 198, § 391-3-6-.20.

n200 See Seabrook, supra note 188, at C1.

n201 See id.

n202 See id.

n203 See Farmers Protest State's Proposed Water Rules, A.P. Newswires, Apr. 11, 2000.

n204 H.B. 1182, 2000 Ga. Gen. Assem.

n205 See id.

n206 O.C.G.A. § 50-13-4(f), (g) (1999).

n207 Id. § 50-13-4(f).

n208 Id. § 50-13-4(g).

n209 See H.B. 1182, 2000 Ga. Gen. Assem., § 2.

n210 Peter Mantius, Barnes Urged to Veto Water-Quality Override Bill, Atlanta J. Const., Apr. 6, 2000, at B1. In a letter to Governor Barnes, the groups described the bill as "an unconstitutional bid to block state protection of rivers, streams, lakes and aquifers." Id.

n211 Peter Mantius, EPA Official Warns Against Legislative Veto of Water Rules, Atlanta J. Const., Apr. 19, 2000, at D3.

n212 See Williams, supra note 14, at D5; see also Ga. Const. art. V, § 2, par. IV. This provision outlines in relevant part: Except, as otherwise provided in this Constitution, before any bill or resolution shall become law, the Governor shall have the right to review such bill or resolution intended to have the effect of law which has passed by the General Assembly. The Governor may veto, approve, or take no action on any such bill or resolution.

n213 See Animal (Non-swine) Feeding Operations - State of Georgia, Amendment to the Rules and Regulations for Water Quality Control, Ga. Comp. R. & Regs. r. 391-3-6-.21 (proposed July 28, 2000) [hereinafter First Edition Non-Swine Rules].

n214 See New Environmental Rules May Target Chicken Farms, Atlanta J. Const., July 20, 1999, at B4.

n215 See First Edition Non-Swine Rules, supra note 213, § 391-3-6-.21.

n216 See id. § 391-3-6-.21(10).

n217 Id.

n218 See Dave Williams, Panel Looks at Poultry Farm Size, Fla. Times Union (Jacksonville), May 19, 2000, at B1.

n219 See Letter from Greg Blount, representing the Georgia Poultry Federation, to the Board of the Department Of Natural Resources 1 (May 10, 2000) (on file with the Georgia State University Law Review).

n220 Id.

n221 Id.

n222 Letter from Tommy Irvin, Commissioner, Georgia Department of Agriculture, to Harold F. Reheis, Director, Environmental Protection Division, Department of Natural Resources 3 (Sept. 5, 2000) (on file with the Georgia State University Law Review).

n223 Memorandum from John E. Hennelly, Assistant Attorney General, Department of Law, State of Georgia, to Harold F. Reheis, Director, Georgia Environmental Protection Division, Department of Natural Resources 1 (Sept. 19, 2000) (on file with the Georgia State University Law Review) [hereinafter Hennelly Memo].

n224 See id. at 4.

n225 See Draft Guidance, supra note 133, at 2-4

n226 See Hennelly Memo, supra note 223, at 1.

n227 See Dave Williams, Poultry Farm Crackdown Hits Legal Snags in Georgia, Knight-Ridder Trib. Bus. News, Sept. 24, 2000.

n228 See id.; Charles Seabrook, State Shelving New, Stiffer Anti-Pollution Rules for Chicken Farmers, Atlanta J. Const., Sept. 26, 2000, at C1.

n229 See Williams, supra note 227.

n230 Id.

n231 Seabrook, supra note 228, at C1.

n232 See Second Edition Non-Swine Rules, supra note 16.

n233 See id. § 391-3-6-.21(2)(k).

n234 Id.

n235 See id. § 391-6-.21(8). According to federal regulations, 1000 animal units equals 100,000 chickens if a facility uses a continuous overflow watering system; thus, 3000 animal units generally equates to 300,000 chickens. See 40 C.F.R. § 122.23(b)(1), App. B.

n236 See Second Edition Non-Swine Rules, supra note 16, § 391-3-6-.21(8)(a)(2).

n237 Id. § 391-3-6-.21(8)(a)(2).

n238 See Dave Williams, DNR Board Split Over Poultry Waste, Augusta Chron., Oct. 26, 2000, at C15.

n239 Id. (quoting Tom Wheeler).

n240 Id.

n241 See Rules and Regulations for Water Quality Control, Ga. Comp. R. & Regs. r. 391-3-6-.21 (2000) [hereinafter Final Poultry Rule].

n242 Compare id. § 391-3-6-.21(2)(1), with Second Edition Non-Swine Rules, supra note 16, § 391-3-6-.21(2)(k).

n243 Compare Final Poultry Rule, supra note 241, § 391-3-6-.21(8)(a)(2), with Second Edition Non-Swine Rules, supra note 16, § 391-3-6-.21(8)(a)(2).

n244 Compare Final Poultry Rule, supra note 241, with Proposed EPA Regulations, supra note 17, at 3023.

n245 See Proposed EPA Rules, supra note 17, at 3023.

n246 See First Edition Non-Swine Rules, supra note 213, § 391-3-6-.21(10).

n247 See Seaboard Contract, supra note 96, at 1-3.

n248 EPA's proposed rules should be formally adopted by the end of 2002 with publication in the Federal Register in 2003. See U.S. Envtl Prot. Agency, Factsheet: Proposed Regulations to Address Water Pollution from Concentrated Animal Feeding Operations (2001) (on file with the Georgia State University Law Review).

n249 See supra Part II.

n250 See supra Part I.

n251 See supra Part II.

n252 See generally Clean Water Initiative, supra note 125. The Report discusses Metro Atlanta's growth and the fact that the area relies upon surface water for ninety-eight percent of its needs. Id. at 2. Further, the Chattahoochee River Basin, which has one of the highest concentrations of poultry farms in the state, supplies eighty percent of the Metro area's water needs. Id.

n253 See supra Parts IV, V.

n254 See supra Part V.

n255 See supra Parts IV, V.

n256 Cazier & Salmore, supra note 3, at 13.

n257 See supra Parts IV, V.